93-351577/44 L02 HUTR 92.04.11
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92.10.31 92DE-4236855 (+92DE-4212229) *(93.10.28)* C04B 28/00, 28/26 (C04B 14:10, 14:18, 18:08, 18:14, 28/00, 22:00, 18:10) (C04B 14:18, 28/26, C06B 14:10)

Low density inorganic moulding prodn. - by wetting microporous filler material with liq., water contg. wetting agent, mixing with stone forming component, pouring into mould and thermally hardening (Ger)

C93-156006 N(AT AU BB BG BR CA CH CZ DE DK ES FI GB HU JP KP KR KZ LK LU MG MN MW NL NO NZ PL PT RO RU SD SE SK UA US VN) R(AT BE CH DE DK ES FR GB GR IE IT LU MC NL OA PT SE)
Addnl. Data: HAACK T, RANDEL P
WILLICH DAEMMSTOFFE & ISOLIERSYSTEME GMB (WILL-)
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Method of producing a light, mainly inorganic moulding with a density below 400 kg/m³ consists of wetting a microporous filler material of powder density below 150 kg/m³ with a liquid, water-containing wetting agent; mixing with a stone-forming component and optionally other solid components together with a liquid hardener so that the filler material retains its macrostructure; pouring into a mould; and press forming followed by removal and thermal hardening.

L(2-A4, 2-G1)

USE/ADVANTAGE

Making chimneys and chimney parts using steel tubular moulds.

The moulding has a high temp. strength, good alternating temp. strength, low thermal conductivity and has low shrinkage at high temperature.

EMBODIMENTS

The stone-forming component consists of: (1) a fine oxide mixture of amorphous SiO_2 and Al_2O_3; and/or
(2) a glass-like, amorphous electrofilter ash; and/or
(3) ground calcined bauxite; and/or
(4) electrofilter ash from lignite coal fire power stations; and/or
(5) undissolved, amorphous SiO_2, esp. from an amorphous, dispersed powder, dehydrated or hydrated silicic acid; and/or
(6) meta kaolin.

The hardener is an alkali silicate solution with 1.2-3 mol SiO_2 per mol K_2O and/or Na_2O and a density of 1.4-1.7 kg/dm³.

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A surfactant and a turbity agent may also be added to the mixture. The latter is pref. a vegetable ash such as rice shell ash. The filler material is pref. expanded vermiculite and/or pearlite.

The mixture is pressed in a mould to reduce the volume to 20-80, pref. 30-50% of the starting volume using a pressure of 1-4 bar.

The mould is preheated to 40-250, pref. 100-170°C and after pressing is removed from the mould within 3 min. It is then hardened at 40-300, pref. 100-200°C. (19pp1678KGDwgNo0/1).

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